I claim:

1. A rotary expansible chamber device comprising:

a sealable shell member with hollow interior;

a cylindrical stator member of a selected length rigidly secured interior the shell member, the stator member having a continuously stepped interior surface;

a cylindrical rotor member of said selected length positioned concentrically interior the cylindrical stator member forming a plurality of chambers with the stator member's continuously stepped interior surface, the rotor member fastened and supported by a central shaft member rotatably secured to the shell member, the rotor member including a plurality of radial channels with outlets at the rotor member's periphery adjacent the stator member's stepped interior surface, the radial channels in fluid communication with a channel interior the central shaft member;

a pair of planar collar members, each collar member fastened to one side of the rotor member, the collar members essentially covering the cylindrical stator member circumferential to the rotor member, the collar members including a plurality of apertures offset from the radial channel outlets of the rotor member; and

a pair of spacer members, each spacer member sealingly secured between a collar member and the rotor member, the spacer members providing a selected clearance between the collar members and the cylindrical stator member;

whereby a pressurized working fluid, flowing into the central shaft member's channel and through the rotor member's radial channels to the channel outlets, impinges on the stator member's stepped surface, thereby imparting rotational movement to the rotor member and attached central

shaft, the spent working fluid venting from between the stator member and rotor member via the offset apertures in the collar members and contained within the shell member.

2. The rotary expansible chamber device of claim 1, wherein the rotor member's radial channels extend in an arc from the central shaft member.

3. The rotary expansible chamber device of claim 1, wherein the rotor member's radial channels include rifling on an interior surface.

4. The rotary expansible chamber device of claim 1, wherein the rotor member's radial channel outlets include a nozzle member to direct the working fluid exiting therefrom.

5. The rotary expansible chamber device of claim 1, wherein adjacent surfaces of the stator member and the rotor member, and adjacent surfaces of the stator member and the collar members, are dimpled to form a labyrinth seal there between.

6. The rotary expansible chamber device of claim 1, wherein the collar member's offset apertures are triangular and sized to match the chambers formed between the stator member and the rotor member.

7. The rotary expansible chamber device of claim 1, wherein the number of radial channels equals N and the number of chambers formed between the stator member and the rotor member equals 5N, where N is an integer.

8. The rotary expansible chamber device of claim 7, wherein the number N is preferably an integer greater than 2.

9. The rotary expansible chamber device of claim 1, further including a plurality of pressure guides secured to an interior surface of the central shaft member's interior channel.

10. The rotary expansible chamber device of claim 9, wherein the pressure guides are linear, curved members.

11. A rotary expansible chamber device comprising:

a sealable shell member with hollow interior;

a cylindrical stator member of a selected length rigidly secured interior the shell member, the stator member having a continuously stepped interior surface;

a cylindrical rotor member of said selected length positioned concentrically interior the cylindrical stator member forming a plurality of chambers with the stator member's continuously stepped interior surface, the rotor member fastened and supported by a central shaft member rotatably secured to the shell member, the rotor member including a plurality of radial channels with outlets at the rotor member's periphery adjacent the stator member's stepped interior surface, the radial channels in fluid communication with a channel interior the central shaft member;

a pair of planar collar members, each collar member fastened to one side of the rotor member, the collar members essentially covering the cylindrical stator member circumferential to the rotor member, the collar members including a plurality of apertures offset from the radial channel outlets

of the rotor member;

a pair of spacer members, each spacer member sealingly secured between a collar member and the rotor member, the spacer members providing a selected clearance between the collar members and the cylindrical stator member; and

adjacent surfaces of the stator member and the rotor member, and adjacent surfaces of the stator member and the collar members, are dimpled to form a labyrinth seal there between;

whereby a pressurized working fluid, flowing into the central shaft member's channel and through the rotor member's radial channels to the channel outlets, impinges on the stator member's stepped surface, thereby imparting rotational movement to the rotor member and attached central shaft, the spent working fluid venting from between the stator member and rotor member via the offset apertures in the collar members and contained within the shell member.

12. The rotary expansible chamber device of claim 11, wherein the rotor member's radial channels extend in an arc from the central shaft member.

13. The rotary expansible chamber device of claim 11, wherein the rotor member's radial channels include rifling on an interior surface.

14. The rotary expansible chamber device of claim 11, wherein the rotor member's radial channel outlets include a nozzle member to direct the working fluid exiting therefrom.

15. The rotary expansible chamber device of claim 11, wherein the collar member's offset apertures are triangular and sized to match the chambers formed between the stator member and the rotor member.

16. The rotary expansible chamber device of claim 11, wherein the number of radial channels equals N and the number of chambers formed between the stator member and the rotor member equals 5N, where N is an integer.

17. The rotary expansible chamber device of claim 16, wherein the number N is preferably an integer greater than 2.

18. The rotary expansible chamber device of claim 11, further including a plurality of pressure guides secured to an interior surface of the central shaft member's interior channel.

19. The rotary expansible chamber device of claim 18, wherein the pressure guides are linear, curved members.

20. A rotary expansible chamber device comprising:

a sealable shell member with hollow interior;

a cylindrical stator member of a selected length rigidly secured interior the shell member, the stator member having a continuously stepped interior surface;

a cylindrical rotor member of said selected length positioned concentrically interior the

cylindrical stator member forming a plurality of chambers with the stator member's continuously stepped interior surface, the rotor member fastened and supported by a central shaft member rotatably secured to the shell member, the rotor member including a plurality of radial channels with outlets at the rotor member's periphery adjacent the stator member's stepped interior surface, the radial channels in fluid communication with a channel interior the central shaft member, the radial channels extending in an arc from the central shaft member, the number of radial channels equals N and the number of chambers formed between the stator member and the rotor member equals 5N, where N is an integer;

a pair of planar collar members, each collar member fastened to one side of the rotor member, the collar members essentially covering the cylindrical stator member circumferential to the rotor member, the collar members including a plurality of apertures offset from the radial channel outlets of the rotor member;

a pair of spacer members, each spacer member sealingly secured between a collar member and the rotor member, the spacer members providing a selected clearance between the collar members and the cylindrical stator member; and

adjacent surfaces of the stator member and the rotor member, and adjacent surfaces of the stator member and the collar members, are dimpled to form a labyrinth seal there between;

whereby a pressurized working fluid, flowing into the central shaft member's channel and through the rotor member's radial channels to the channel outlets, impinges on the stator member's stepped surface, thereby imparting rotational movement to the rotor member and attached central shaft, the spent working fluid venting from between the stator member and rotor member via the offset apertures in the collar members and contained within the shell member.